

This listing of claims will replace all prior versions,
and listings, of claims in the application:

Claim 1-43 (canceled)

1 Claim 44 (original): A method of transmitting data
2 between a first device and a second device, comprising
3 the steps of:

4 providing a plurality of N separate antennas,
5 said plurality including at least a first antenna and a
6 second antenna, N being a positive integer greater than
7 one;

8 operating the first device to transmit from the
9 first antenna, a first signal including said data the
10 first signal having a carrier frequency, f_c , a broadcast
11 region from the first antenna including the second
12 device;

13 operating the first device to transmit from
14 the second antenna, a second signal including said data
15 the second signal having the same carrier frequency, f_c ,
16 as the first signal, a broadcast region from the second
17 antenna including the second device, at least one of a
18 phase and an amplitude of the second signal varying over
19 time relative to the first signal.

1 Claim 45 (original): The method of claim 44, wherein the
2 phase of the second signal varies over time relative to
3 the phase of the first signal, the method further
4 comprising the step of:

5 introducing a variation into the phase of the
6 second signal as a function of time prior to operating
7 the second antenna to transmit the second signal.

1 Claim 46 (original): The method of claim 45, further
2 comprising the step of:
3 controlling the rate at which data is
4 transmitted as part of the first signal as a function of
5 transmission channel quality information.

1 Claim 47 (original): The method of claim 45, wherein the
2 first device is a base station and the second device is a
3 mobile station.

1 Claim 48 (original): The method of claim 45, wherein the
2 first device is a mobile station and the second device is
3 a base station.

1 Claim 49 (original): A method of transmitting data
2 between a first device and a second device, comprising
3 the steps of:
4 providing a plurality of N separate antennas,
5 said plurality including at least a first antenna and a
6 second antenna, N being a positive integer greater than
7 one;
8 operating the first device to transmit from the
9 first antenna, a first signal including said data the
10 first signal having a center frequency, a broadcast
11 region from the first antenna including the second
12 device;
13 operating the first device to transmit from
14 the second antenna, a second signal including said data
15 the second signal having the same center frequency as the
16 first signal, a broadcast region from the second antenna

17 including the second device, at least one of a phase and
18 an amplitude of the second signal varying over time
19 relative to the first signal.

1 Claim 50 (original): The method of claim 49, further
2 comprising the steps of:
3 introducing a variation into the phase of the
4 second signal as a function of time prior to operating
5 the second antenna to transmit the second signal; and
6 controlling the rate at which data is
7 transmitted as part of the first signal as a function of
8 transmission channel quality information.

1 Claim 51 (original): A communications apparatus,
2 comprising:
3 a source of data;
4 a transmitter circuit coupled to the source of
5 data for generating a plurality of data signals each data
6 signal including the same data, the plurality of data
7 signals including a first data signal and a second data
8 signal the first and second data signals differing from
9 one another as a function of time by at least one of a
10 phase and an amplitude; and
11 a plurality of antennas coupled to said
12 transmitter circuit to receive and transmit said data
13 signals in parallel, each antenna receiving and
14 transmitting one of said data signals.

1 Claim 52 (original): The apparatus of claim 51,

2 wherein the transmitter circuit includes means
3 for independently varying the phase of at least one of
4 the first and second data signals as a function of time.

1 Claim 53 (original): The apparatus of claim 52, further
2 comprising:

3 a receiver for receiving communications channel
4 condition information; and

5 means for determining the rate at which data
6 should be transmitted in said first and second data
7 signals as a function of the communications channel
8 information.

1 Claim 54 (original): The apparatus of claim 52, further
2 comprising:

3 a receiver for receiving communications channel
4 condition information from a plurality of mobile stations
5 regarding the condition of a communications channel
6 associated with individual ones of said plurality of
7 mobile stations; and

8 means for scheduling transmission of data to
9 individual mobile stations as a function of the received
10 communications channel condition information.

1 Claim 55 (original): The apparatus of claim 54,

2 wherein the means for scheduling includes a
3 scheduling routine which gives preferential treatment to
4 the scheduling of data transmissions to mobile stations
5 with good communications channels as compared to mobile
6 stations with poorer communications channels.

1 Claim 56 (original): The apparatus of claim 55, further
2 comprising:

3 means for determining the rate at which data
4 should be transmitted in said first and second data
5 signals as a function of the communications channel
6 information.

1 Claim 57 (original): The apparatus of claim 54,
2 wherein the first and second data signals have
3 the same center frequency, f_c and a wavelength W at the
4 center frequency; and

5 wherein the first and second antennas are
6 spaced at least one half the distance of the wavelength W
7 from each other.

1 Claim 58 (original): The apparatus of claim 54,
2 wherein the first and second data signals have
3 the same carrier frequency, f_c and a wavelength W at the
4 carrier frequency; and

5 wherein the first and second antennas are
6 spaced at least one half the distance of the wavelength W
7 from each other.

1 Claim 59 (original): The apparatus of claim 51,
2 wherein the first and second data signals have
3 the same center frequency, f_c and a wavelength W at the
4 center frequency; and

5 wherein the first and second antennas are
6 spaced at least one half the distance of the wavelength W
7 from each other.

1 Claim 60 (original): The apparatus of claim 51,
2 wherein the first and second data signals have
3 the same carrier frequency, f_c and a wavelenth W at the
4 carrier frequency; and
5 wherein the first and second antennas are
6 spaced at least one half the distance of the wavelenth W
7 from each other.

1 Claim 61 (original): The apparatus of claim 51, further
2 comprising:
3 means for using a fixed amount of power to
4 transmit the combination of the first and second data
5 signals over time.

1 Claim 62 (original): The apparatus of claim 61, further
2 comprising:
3 means for varying the relative amplitudes of
4 the first and second data signals as a function of time
5 while maintaining the combined average transmitted power
6 of the first and second data signals at an almost
7 constant value over the period in time during which the
8 relative amplitudes of the first and second data signals
9 are varied.

1 Claim 63 (original): A communications system,
2 comprising:
3 a mobile station; and
4 a base station, the base station including:
5 i. a receiver for receiving
6 communications channel condition

7 information regarding the condition of a
8 first communications channel existing
9 between the first device; and
10 ii. means for determining the rate at
11 which data is transmitted to said mobile
12 station as a function of the channel
13 condition information.

1 Claim 64 (original): The communications system of claim
2 63, further comprising:

3 a plurality of additional mobile stations, the
4 base station receiver receiving additional communications
5 channel condition information regarding the condition of
6 additional communications channels existing between the
7 base station and said additional mobile stations.

1 Claim 65 (original): The communication system of claim
2 64, further comprising:

3 means for determining the order in which the
4 base station is to transmit data to different mobile
5 stations as a function of said communication channel
6 condition information and said additional communications
7 channel condition information.

1 Claim 66 (original): The communication system of claim
2 65, wherein the base station further includes:

3 at least a first and second antenna for
4 broadcasting first and second signals including the same
5 data to one of said mobile stations, the first and second
6 signals having different phases.

1 Claim 67 (original): The communication system of claim
2 65, wherein the base station further includes:
3 at least a first and second antenna for
4 broadcasting first and second signals including the same
5 data to one of said mobile stations the first and second
6 signals having different amplitudes.

1 Claim 68 (original): The communication system of claim
2 65, wherein the base station further includes:
3 means for introducing signal variations into
4 signals transmitted to the mobile stations so that the
5 mobile stations will detect fluctuations in received
6 signal power.

1 Claim 69 (original): The communication system of claim
2 68, wherein said means for introducing signal variations
3 into signals includes a plurality of antennas for
4 transmitting the same data in parallel.

1 Claim 70 (original): A mobile communications device,
2 comprising:
3 a portable housing;
4 transmitter circuitry, mounted in said portable
5 housing, for generating a plurality of signals including
6 the same data content but having phases which vary
7 relative to each other over time; and
8 a plurality of antennas attached to said
9 housing, said antennas being coupled to said transmitter
10 circuitry, each antenna being used to transmit a

11 different one of said plurality of signals including the
12 same data content.

1 Claim 71 (original): The device of claim 70, further
2 comprising:
3 receiver circuitry for receiving a signal from
4 a base station; and
5 means for generating communications channel
6 condition information from the signal received from the
7 base station.